Computing Project Handbook

School of Computing

September 2017

Contents

Introduction

Welcome to the Computing Project Module COM562, this handbook is designed to be the main guidance document for the conception, execution and submission of your final year project.

Please note that this handbook is complemented by a series of lectures where some aspects of the handbook and the project in general will be discussed with the Module Coordinator.

Lecture slides, assessment criteria, forms and submission areas are available on the module area of blackboard learn - You can access Blackboard Learn through the portal.

At the beginning of the semester, you will be allocated a Mentor, your mentor will guide you and also provide feedback through the execution of your project. Mentor allocation is published in blackboard, Please arrange a first meeting with your mentor ASAP to discuss your project proposals and meeting arrangements.

Note that the preferred form of communication between your mentor, module coordinator and yourself is email, so please check your email daily for important notifications regarding your project.

Please read this handbook carefully before you start your project. If you have any queries, please raise them with your project mentor in the first instance or with the Project Coordinator Dr. Jose Santos (ja.santos@ulster.ac.uk)

Best of Luck with your project

Jose A. Santos
COM562 - Project Coordinator

1 Roles and Responsibilities

Your Final Year Project is lead by you, there are several deadlines that have been already set for you but the planification and implementation of your project is your responsibility. There are various academic staff that will provide support along the way:

- **Project Mentor:** At the beginning of Semester 1, you are assigned a project mentor, their role is to guide your work in the project. they are responsible for specifying directed reading material, advising on the technical direction of the project and for monitoring your progress with respect to the overall project schedule and for assessing the Project Management Aspect of your Project. They are also responsible for providing formative feedback for some of the elements that need to be submitted as part of the module. They will also serve as the Chair for your VIVA and as such, will be able to contribute to the final assessment of the project as they have been monitoring the project management aspect of your project. It is expected that you will meet with your mentor regularly to review progress, however, it is your responsibility to arrange these meetings.
- **Project Coordinator:** The project coordinator will provide lectures and tutorials on generic project-related topics. He is also responsible for the module and as such he sets the deadlines, deliverables, schedule of presentations and demonstrations, etc.
- **Markers:** Your project will be assessed by 2 members of academic staff, they are responsible for marking and providing feedback as appropriate to each of your submissions that are assessed.

As a student taking this module and as the leader of your project, you are expected to:

- Integrate and apply knowledge and skills acquired from other modules in the course to the project;
- undertake project specific study and investigation;
- follow strictly any safety or ethical regime agreed with your mentor;
- cooperate in ensuring the security of your project work, and to maintain the security of any relevant backups or electronic data of any kind;

- meet all deadlines specified, ensuring timely submission of correctly prepared deliverables.

2 Proposing a Project

Every student needs to propose and execute their own project, this is a 2-step process.

Step 1: The Proposal Ideas Each student drafts and submits via email a maximum of TWO project proposals to their assigned project mentor. [Maximum length of each proposal is ONE side of A4]

Each project proposal must include material under each of the following section headings:

1. A draft title of the project. Create a succinct, yet clear, non-ambiguous title for your project.
2. Project Description **(300 Words)**. Provide a brief background to the origin of the project proposal. Indicate clearly why the project outputs are needed (what is the specific "problem" which the project will address) and the intended user audience (how widely will your software solution be adopted) and what is expected to be produced.
3. Project Aim State the project aim
4. Copyright, Intellectual Property Rights or Commercial Sensitivity. If appropriate, provide evidence that any issues of commercial sensitivity, intellectual property rights or data protection associated with the project which may be of concern to stakeholders have been noted and resolved to the satisfaction of all parties. If these matters do not need to be considered simply state that the project does not raise issues relating to copyright, intellectual property rights or commercial sensitivity.
5. Indicative hardware and software resources to be utilised within the project. Indicate the resources required (both hardware and software). There is a need here for you to ensure that there are no restrictions or similar on acquiring or accessing these resources and ensuring appropriate support for these is in place for the duration of the project.
6. References Where appropriate provide references to published works which support your framing of the project background and/or demand for the project deliverables. If you have none, simply state "None".

Step Two. The Project Proposal Review Process.

The acceptability of each project proposal is assessed by the Project Supervisor in relation to the following criteria:

1. Does the proposed project title make sense?
2. Does the proposed project meet a real need in a wider context?
3. Does the proposed project provide an opportunity for the student to self-manage a significant piece of work?
4. Does the proposed project provide an opportunity to synthesise information, ideas and practices, to identify a significant "problem", produce a significant "solution" together with an evaluation of that solution?
5. Does the proposed project afford an opportunity for the student to demonstrate innovation and creativity?
6. Are the indicated resources required available to enable the project to be completed?
7. Is the proposed project achievable within the project timescale of 300 hours of student effort?
8. Does the proposed project satisfy the BCS requirements for "General project requirements" and "Undergraduate individual project requirements"? (See: `http://www.bcs.org/upload/pdf/hea-guidelinesfull-2015.pdf` sections 2.5.1, 2.5.2)

Once a project topic is agreed with your mentor, the project need to be formalised by completing a Project Proposal Document. Once completed, the selected Project Proposal Document must be agreed with the supervisor during a meeting that should be held before the submission deadline. Once agreed, the final proposal document (1 A4 page) should be uploaded to blackboard on the appropriate submission area by Noon on Monday week 3.

Note: Failure to upload the document by the deadline will result in a non-submission being recorded against the entire project module.

3 Project Deliverables and Deadlines

The following table outlines the key dates, actions and responsibilities with respect to the project deliverables for the 2017-18 academic year:

Note: Failure to submit any of the deliverables by the appropriate deadline or attend any of the assessment sessions will result in a non-submission being recorded against the entire project module.

Semester 1

Submission	Deadline Date	Action	Responsibility
Agreed Project Proposal	Monday Week 3 - Sem 1 9-Oct 2017 - Noon	Proposal Upload to Blackboard Ethics dB Submission	Student Mentor
Initial Report	Thursday Week 6 - Sem 1 2-Nov 2017 - Noon Week 9	Report Upload to Blackboard Formative Oral Feedback	Student Mentor
Project Planning and Management (PPM) Slides Slides	Thursday Week 11 - Sem 1 7-Dec 2017 - Noon	Slides with Supporting Notes Upload to Blackboard	Student Student
PPM Presentation	Week 12 See Blackboard for Session Schedule Week 12	Attend the Appropriate Group Session Marks and Written Feedback	Student Markers

Semester 2

Submission	Deadline Date	Action	Responsibility
Showcase Report	Thursday Week 6 - Sem 2 8-Mar 2018 - Noon Week 9	Report Upload to Blackboard Formative Feedback	Student Mentor
Final Report	Week 11 - Sem 2 26-Apr. 2018 - Noon After Board of Examiners	Report Upload to Blackboard Feedback on Request	Student Project Coordinator
Project Demonstration Exercise	Week 15 - Sem 2 28-31 May and 1 June 2018 Individual Slot Available on Blackboard After Board of Examiners	Attend and Defend your Work Feedback on Request	Student Project Coordinator

4 The Initial Report

The initial report is your first formal submission for the project, it focuses on the creation of a project plan based on initial reading, research and the requirements scope.

The report consist of 4 interwoven sections:

1. Context and Definition of the project.

2. Clear Statement of Project Aim and Objectives
3. Initial investigation of the context and literature, including, other similar products/solutions.
4. Initial Project Plan

The initial report needs to be submitted electronically through blackboard learn on or before the appropriate deadline.

Note: Failure to upload the document by the deadline will result in a non-submission being recorded against the entire project module.

The report has limitations in the number of words and/or pages you can write and should be structured as follows:

1. Title Page: Title of the project, author details and course details. (1 page)
2. Problem context and elucidation (1000 words)
3. Project Aim (100 words)
4. Project Objectives: Bulleted list of objectives to be achieved
5. Literature Review Part 1: Initial investigation on the project/problem context area (4 pages max)
6. Literature Review Part 2: Similar solution investigation and analysis (4 pages max)
7. Initial Project plan for both semesters:
   (a) Outline of Initial Requirements (table)
   (b) Justification of Requirement Gathering Methodology to be used for the Incorporation of Further Requirements (500 words)
   (c) Justification of selected Software LifeCycle Methodology (500 words)
   (d) Work Breakdown Structure: Figure/table & effort estimation (500 words)
   (e) Gantt Chart: Figure (1 page)
   (f) Stakeholder identification (300 words)
   (g) Resources identification (300 words)

(h) Risk Assessment (table & mitigation strategy (500 words) - focus on technical risks.

(i) Requirements prioritisation strategy (300 words)

8. Bibliography: this is both: items cited and items consulted - no limit in length but need to use either Harvard Style or IEEE Style - DO NOT MIX THEM.

The report must be written using the following font/structure:

- Page Size: A4
- Margins: 1.27cm on every side
- Font: Calibri size 12 - Size 14 for headings
- Arrangement: Single Column
- Spacing: 1.0

Feedback and Actions resulting from Feedback Feedback on the submission will be provided by your mentor within 3 weeks of submission. By the end of week 9, you should have arranged a meeting with your mentor to discuss the feedback of your initial report. This feedback should be acted upon by you and be reflected on the next stage of assessment: the PSG Presentation.

5 Peer Suppor Groups (PSG)

At the beginning of Semester 1, all the students sharing a mentor are cosidered to be part of a "Peer-Support Group" (PSG).

The intention of the groups is to:

- Provide an informal, ‘safe’ and ‘non-threatening’ forum wherein project related topics can be brought forward, explored and developed among peers.
- Facilitate free discussion and exchange on matters relating to the project.
- Permit members to offer constructive criticism and support to peers.

- Collectively identify the strengths, weaknesses, risks and opportunities of an individual's approach to, and progress through the project development life cycle.

During both semester, each group should meet weekly and maintain a written record of the outcomes of the meeting and any issues that require the attention of the project coordinator. The meeting should be chaired by a different student each week and that student is responsible for completing the appropriate minutes and forward those, via email, to the project coordinator.

During the first meeting, the group should complete the Peer Support Group Memebership Form found on the Blackboard module area and email it to the projecct coordinator.

Meeting Format:
Beginning with the Chairperson, each member in turn briefs the group on their individual project. Considering specifically the past week, each speaker will detail progress made, difficulties encountered and work-arounds. Each speaker will end by stating as simply as possible their objectives for the week ahead (and will begin future briefing updates by referring to the progress made in achieving these objectives).

Led by the Chairperson, the group will discuss any group topic that may have been set by the Project Coordinator. (Group topics will occasionally be set such as, 'What characterises a good project?')

At the end of the meeting, the Chairperson will agree with the group a record of the meeting under each of the following headings:

- PSG Group Name, Week Number.
- members of group present/not present.
- issues discussed.
- any issues for attention of project coordinator.

The Chairperson will email any issues for attention of project coordinator to the Project Coordinator at ja.santos@ulster.ac.uk also a copy of the record of the meeting should be emailed as an attachment each week :

Use email Subject: PSG Group x week y State clearly the issues within the body of the email (not as an attachment). Include the record of the meeting as an attachment – file should be maned PSG Group x Week y Record of Meeting

Pleae have your first PSG meeting organised and carried out by the end of week 3 of Semester 1.

6 Project Planning and Management (PPM) Presentation

The PPM presentation is the second submission for the project and the first summative element of the module. The presentation is worth 20% of the module mark.

The purpose of the PPM presentation is to demonstrate an understanding of the project's progress with respect to the plan so that appropriate corrective actions can be taken if needed.

For this elemet of assessment, you are required to deliver a 10 minute presentation on the progress of the project plan which is followed by another 10 minutes of Q&A with your peers and the assessment panel. You are also required to submit your slides (with supporting notes) to blackboard on or before the appropriate deadline.

Note: Failure to upload the slides by the deadline or fail to attend your presentation session will result in a non-submission being recorded against the entire project module.

Topics to be covered on the Presentation:

1. Cover Slide: Title of Project and Student Details (Name, Reg No and Course Code)
2. Problem Statement
3. Proposed Problem Solution and Project Aim
4. Summary of Requirements Gathering Strategy used
5. Example of 1 Functional and 1 Non-Functional requirement appropriately documented using appropriate formatting (Volere or IEEE)
6. Full list of requirements in table form. (Note: If this takes more than 1-2 slides, please provide a printed version for the markers with all the requirements)
7. Summary of Requirement Proritisation Strategy

8. Risk Table including risk description and appreciation for the severity and impact (risk factor) on the project.
9. Summary of Risk Mitigation Strategy.
10. Choice and justification of Software LifeCycle Methodology to be used
11. Project Plan for both semesters adapted to the methodology (this should include Gantt Chart with appropriate Effort Estimation and Deadlines)
12. Monitoring of the progress and Expended effort
13. Summary of proposed Implementation Strategy including software platform selection and justification and next objective to be achieved along with the plan for achieving it.

Each slide should be supported by a set of notes that provide evidence of the content of the slide. These notes should be completed using the notes section of powerpoint.

The details of the presentation arrangements (date, time, location) will be published by the module coordinator at the end of week 11.

Presentation Facilities and Aids
The presentation rooms will be equipped with a data projector, a projection screen and a computer or laptop with ISD standard desktop installation.

You must bring to the presentation a USB pren drive with your PowerPoint Presentation in both PPT and PDF formats. You will be expected to upload and deliver the PPT presentation from the USB drive.

Presentation Audience and Procedure
All members of the specific Peer Support Group being assessed are to be in attendance for all presentations by their peer group. Two members of academic staff will also be in attendance for the full session and will carry out the assessment and lead the Q&A aspect of the assessment.

All students should be in attendance for the beginning of session, they should be seated and awaiting to be called forward in turn to present. When called forward, proceed to deliver your presentation. After your presentation finishes (or 10 minutes) the presenter will take questions from the PSG members and the examiners. After completing the Q&A, return to your seat.

7 The Showcase Report

The Showcase Report is the third submission element of the project and the first on Semester 2. Each student is tasked to write a short report evidencing how what they have been taught on the course and what they have learned from personal study, work experience etc. is assisting them not only in their the project, but in identifying any entrepreneurial and employment opportunities offered. It's basically a way of preparing you for interviews where the interviewer is questioning your learning from the course and your ability to manage your own career. Have you given thought to where you want to be in a few years time or are you simply drifting along? Are you lurching from one assessment deadline to the next or are you reflecting on what you have learned and trying to integrate that knowledge across the course?

The format is more that of an essay than a formal report. No more than four pages, word processed, written in the first person, reflecting on how you have learned from and integrated materials from across all your years of study, your own life-long learning and personal development (especially mention activities that earned you formal recognition and/or academic credit from the University), your placement experience and grade, participation in extra-curricular activities and voluntary work.

It's a reflective piece on your achievements, and how they may support future career ambitions, how specific modules of study assisted and influenced you (name the actual modules, don't use module codes as these have no meaning outside of the Course Team), particularly challenging or interesting assessments completed (give named examples), examples of group work tasks and your role within the group and some examples of the independent study you have completed.

The final year project is supposed to be the single, most significant piece of independent assessment you do. It's supposed to show you off at your best, and part of that is how you have integrated the taught materials, how you have successfully undertaken personal research, how you have accepted responsibility for your own learning.

On submitting the showcase reports, you will receive formative feedback in four thematic areas:

1. Transfer and Application of Student Knowledge and Skills
2. The Project Experience

3. Preparation for Employer Interview
4. The Showcase Report Presentation

Characteristics from the graduate quality profile can be internally mapped into these thematic areas as shown on the table below. The nature of the evidential materials sought within each of the thematic areas is also indicated.

Transfer and Application of Student Knowledge
Is recognition given to general transferrable skills acquired and developed throughout the academic programme of study and personal activities?
Where the candidate has completed such activities, does the report reflect on the opportunities afforded for guided Personal Development Planning (such as Professional and Career Enhancement (PACE)) and /or the completion of accredited co-curricular activities or modules of study (such as Tutoring in Schools or the EDGE Award)?
Does the report make clear references to knowledge and skills acquired through named modules of study?
Does the report evidence that the candidate availed of opportunities to show initiative, independence, self-reliance and self-discipline within the programme of study?
Does the report make clear reference to the opportunities afforded and the experiences gained from group work?
Where applicable, does the report comment on the developmental impact of the Placement experience?
The Project Experience
Does the report acknowledge the complexity of the software engineering process and show familiarity of the family of software development methodologies/ templates available to guide developers?
Does the report clearly cite the engineering quality standards employed within the project?
Does the submission evidence that author's ability to plan, manage own time and assess progress against objectives?
Preparation for Employer Interview
Does the report identify the career options available to the author and the attraction of /interest in a particular job / work environment?
Does the report contain reasonable indications of the skills, qualities and abilities employers seek in the targeted employment area?
Is the author persuasive in showcasing how their programme of study or extracurricular activities have prepared them to work in their chosen area?
The Showcase Report
Quality and completeness of the presentation and ability of the student to communicate the essential information effectively using appropriate techniques

The report must be written using the following font/structure:

- Page Size: A4
- Margins: 1.27cm on every side
- Font: Calibri size 12 - Size 14 for headings
- Arrangement: Single Column
- Spacing: 1.0

The showcase report must be fsubmitted on or before the deadline to TurnitIn via Blackboard

Note: Failure to upload the document by the deadline will result in a non-submission being recorded against the entire project module.

7.1 Graduate Qualities

The main purpose of the Showcase Report is to allow the student to evidence their possession of the key skills associated with the successful completion of a final year capstone project in computing, and their awareness of the expected generic and aspirational qualities of an Ulster graduate.

The following statement of the expected qualities of graduates was extracted from the minutes of the University's Teaching and Learning Committee (15 October 2014) and reflects Ulster's aspiration to be the leading provider of professional education for professional life.
"University of Ulster graduates will demonstrate:

- *subject-specific knowledge and skills informed by current research and professional/vocational practice*
- *flexibility, creativity and an entrepreneurial approach to the resolution of problems*
- *self-confidence, global citizenship, appreciation of sustainability matters, ethical leadership, and a commitment to life-wide learning, professionalism and employability*
- *effective collaborative working, communication skills and the capacity for reflective practice, including the ability to give and receive feedback "*

"... It should be borne in mind that there are many qualities that a university graduate might expect to have. In essence this statement tries to encapsulate those qualities that characterise an Ulster graduate..."

7.1.1 Evidence that the Graduate Qualities have been achieved

Examples below are only indicative and are not meant to be an exhaustive list of the sources of evidence:

subject-specific knowledge and skills informed by current research and professional/vocational practice
The student can point to learning outcomes at programme level and within specific modules. In particular, students can refer to the input from research undertaken within the Project Module; as a requirement to complete assessments across any of the other final year modules; attendance at presentations delivered by guest speakers or visiting lecturers

flexibility, creativity and an entrepreneurial approach to the resolution of problems.
The student can evidence any Entrepreneurship module or equivalent within their programme and point to examples within modules where creativity, complex problem solving and innovation could be demonstrated.

self-confidence, global citizenship, appreciation of sustainability matters, ethical leadership and a commitment to life-wide learning, professionalism and employability.
As well as referencing appropriate episodes from within the curriculum and teaching, learning and assessment within appropriate modules of study (guest lectures, visiting speakers, assessments drawing from or relating to these topics) students may also draw relevant examples and evidence from their participation in exchange programmes (such as Study USA and Erasmus), evidence from the student's engagement with Tutoring in Schools, Science Shop, EDGE Award, mentoring, corporate social responsibility activities (such as the Student Union Volunteer Schemes), sponsorship and volunteering activities and participation in clubs and societies.

Students could provide evidence of their readiness for employability from placement reports and employers, client-driven student project work, participation in seminars and workshops and examples of working as an individual or in a team.

effective collaborative working, communication skills and the capacity for reflective practice, including the ability to give and receive feedback.

The student can point to areas where skills such as teamwork, presentations (especially the Peer Support Group Presentations), analysis, critical evaluation and argument have been developed throughout their course, placement experience or extra curricular activities (voluntary or paid).

8 The Final Report

The final report is the last submission element of the project module, the report provides evidence on how the project was completed. The structure of the report and its lenght is fixed and the structure/guidance provided below **MUST** be followed. This submission along with the Project Demonstration Exercise are worth 80% of the project module.

The report must be submitted electronically to TurnItIn via Blackboard Learn on or before the submission deadline.

Note: Failure to upload the document by the deadline or to attend the Project Demonstration Exercise will result in a non-submission being recorded against the entire project module.

8.1 Report Structure

The report must be written using the following font/structure:

- Page Size: A4
- Margins: 1.27cm on every side
- Font: Calibri size 12 - Size 14 for headings
- Arrangement: Single Column
- Spacing: 1.0
- **Note:** The number of words in each of the sections is the maximum number of words. If required (in consultation with your mentor) you can exceed this number by no more that 10%.

1. **Title Page**
   Project Title, student name, student number, course, date (e.g. April 2018)

2. **Abstract (500 Words)**
   The purpose of the abstract is to give a summary of the overall project, enabling the reader to gain an impression of the origins, aims, nature and final results of the work, without having to read the detail of later chapters. The abstract should not exceed 500 words.

3. **Acknowledgements/Dedication - (Optional)** This section is your opportunity to acknowledge the help and advice given by staff, fellow students and other where appropriate.

4. **Chapter 1 - Introduction**

   - Problem Elucidation and Statement (1000 words)
   - Project Aim (200 words)
   - Project Objectives (table format)
   - State the Software Lifecycle Methodology Followed in the Project

5. **Chapter 2 - Requirement Control Document**

   - Provide a statement of the sources and methods used to gather the requirements (300 words)
   - Provide a table with the Final List of Requirements (appropriatelly labelled and organised)
   - Provide a Narrative of Requirement Evolution (500 words)

6. **Chapter 3 - System Design**

   - Provide a narrative of the approach to design (300 words)

   3.1 System Design
   Provide the System Architecture Diagram and its explanation (500 words).

   3.2 Interface Design

   - Provide your interface storyboards and wireframes, explain each figure (3 Pages Maximum)
   - Provide a narrative establising your consideration for HCI and Usability/Accessibilty of the User Inerface (500 words)

   3.3 Data Support Design

- Provide a narrative for the consideration of Security (300 words) and Data Validation (300 words)
- Provide a Database or Data Structure Design (project specific) for example:
  - ER Diagram or Data Structure with appropriate explanation (300 words)
  - Any other relevant data design consideration artefact (with 300 word explanation per artefact provided)

3.4 User Interaction Design

- System Flow Diagram and/or Use Case Diagram with appropriate explanation and justification (300 words each)

3.5 Additional Design Artefacts (topic Specific)
Each artefact provided should be supported by an appropriate explanation (300 words each).
Examples of artefacts that could be provided:

- Activity Diagrams
- Algorithms
- Decision Trees
- UML diagrams, etc

7. **Chapter 4 - System Implementation**

- Rationale for Approach to System Implementation (300 words)
- Summary and Rationale for tools, languages, databases, APIs, frameworks, ec. used in the implementation of the project (1000 words)
- Evidence of use of version control (Git Committ screenshot or rail-track) and development narrative (300 words)
- Summary of the volume of code produced (by you) using meaningful units of measurement (100-200 words) - (i.e. X web-pages, Y server-side scripts, Z queries, W classes, S procedures, T functions, etc. as appropriate for your project)
- System Walkthrough using screenshots of the interface and code (or pseudo-code as appropriate) with brief explanations (5 pages maximum)
- Narrative for consideration of security implementation (300 words)

8. **Chapter 5 - System Verification**

- Narrative for verification strategy used (unit Testing, Integration Testing, peer-review, verification criteria, verification environment, etc.) (1000 words)
- System Verification Results (Work-Product Meets its Requirements): Provide a table speciying test cases matched to system requirements. Use the sample table below for the headings.
- Provide any other evidence artefact that demonstrates that system verification has taken place through the project (Figure + 300 word explanation each.)
- Confirmation Statement that the system meets/does not meet the requirements (100 words)

Test#	Desc. of test	Data	state of software	Req. tested	Expected Result	Actual Result	Pass/ Accept/ Fail Indication

9. **Chapter 6 - System Validation**
   - Narrative for Validation strategy used (Product selection, validation environment, validation procedures and criteria) (1000 words).
   - System Validation Results (Product Meets User Expectation in their Environment) (500 words)
   - Other Work Products Resulting from Validation (500 words each)
   - Consideration for Future Work (500 words)
10. **Chapter 7 - Conclusion and Reflection**
    - Critical Appraisal of the project (500 words)
    - Reflection on Project Plan (500 words)
    - Reflection on Appropriateness of initial time/effort estimation (500 words)
    - Reflection on Apporpirateness of Software Methodology Used (500 words)

11. **Bibliography**

    - List all the sources that you consulted to complete the project and make the project decisions. They will need to be formatted using Harvard Style for Bibliography.

12. **Appendices**

    12.1 **Appendix A: Final Requirement Formal Format**

    - This appendix should contain all the project final set of requirements presented using VOLERE or IEEE template as appropriate

    12.2 **Appendix B: Showcase Report**

    - This appendix should contain the final corrected version of your showcase report (taking into acount the formative feedback received by your mentor)

Note: No more appendices will be allowed on the report - all the required information should be included in the body of the report as specified.

8.2 Code Listing Structure

The Code for the project should be submitted in a separate file in PDF Format. Only include the files that you directly coded or partially coded. Do not include system made files proprietary to your framework.

The file should include

1. Code Dictionary (index of files or code structure that make up your project)
2. Code listing for each file/object/code structure in a readable format.

9 Project Demonstration Exercise

As part of the Final Report Submission, you will be required to carry out a demonstration and oral defense of your project to your panel. This exercise will take place on week 15 of the semester and you will be notified via email of your individual date and time to attend.

Note: Failure to attend your demonstation will result in a non-submission being recorded against the entire project module.

For the exercise, you will need to bring your working project with you:

1. If your project runs on your own laptop/mobile device, please bring it along and ready to run to your session. Source code should also be accessible
2. If your project runs on the lab computer, you will need to bring a version of the software that can be installed on the computer (preferably on a pen-drive) you will be given a slot of 30 minutes on the day of your session in order to install the software on the machine available in the room. The source code should also be accessible on that machine.

The demonstration includes a Q&A session with your markers and mentors and the total exercise will last approximately 40 minutes.

10 Project Forms, Assessment and Feedback

10.1 Project Proposal Form

The Project Proposal form can be found on the module area of Blackboard Learn.

10.2 Assessment and Feedback

In order to pass the project, you will need to submit every project element and attend the PPM presentation and Project Demonstration Exercise. Feedback for each element will be given in different ways as outlined on the following table

Deliverable	Value	Feedback Detail
Project Proposal	Formative Feedback	Mentor Provides Verbal Feedback and Signs for Approval
Initial Report	Formative Feedback	Mentor Provides Inidividual Verbal Feedback 3 weeks after submission
PPM Presentation	**20%**	Verbal Feedback Provided by Markers After the Presentation Metor Discusses the Feedback during Individual Meeting
Showcase Report	Formative Feedback	Mentor Provides Verbal Feedback 3 weeks after submission
Final Report, VIVA and DEMO	**80%**	Module Coordinator Provides Feedback on Request after the Board of Examiners

The marking criteria for the 2 summative assessment elements of the project in respect to the 4 broad areas that compromise the project submission are as follows:

PPM Presentation Marking Scheme

Key Area	Mark
Project Management Skills	50%
Software Design and Development Skills	20%
Critical Evaluation Skills	15%
Communication Skills	15%

Final Report& Demo Exercise Marking Scheme

Key Area	Mark
Project Management Skills	15% (Supervisor Awarded Mark based on Project Monitoring Control and Progress)
Software Design and Development Skills	45%
Critical Evaluation Skills	25%
Communication Skills	15%

Note: Individual Assessment Marking Scheme Aide Memoir will be made available on Blackboard.

10.2.1 Assessment of Project Management Skills at Mentor Meetings

The Project Management Skills aspect of the project will be assessed by the Mentors based on their interaction with you and the monitoring of your progress at the meetings scheduled during the semester.

During your meetings, it is suggest that a record of the meetings is maintained.

The following aide memoir is meant to be an indication of the artefacts and evidence that you should/could produce at the meetings to evidence appropriate management of the project:

- Have you taken appropriate initiative to schedule meetings and attended them providing appropriate evidence that enables you to discuss the progress of the project?
- Have you been able to demonstrate appropriate progress through the agreed project plan and when necessary created and executed appropriate corrective actions?

The Following Artefacts could be used by the student to demonstrate appropriate project management during the meetings:

- Student should be able to discuss progress and milestone reviews at every meeting

- Student should be able to discuss the monitoring of the project risks identified.
- Student should be able to demonstrate that goals and milestones set as part of the project plan, have been achieved.
- When corrective actions on the project plan are required, the student should be able to create, execute a corrective action plan.